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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,570	04/20/2004	Hung-ying Tyan	073338.0200 (04-51121 FLA	5277
5073	7590	08/26/2009	EXAMINER	
BAKER BOTTS L.L.P. 2001 ROSS AVENUE SUITE 600 DALLAS, TX 75201-2980			WANG, QUAN ZHEN	
			ART UNIT	PAPER NUMBER
			2613	
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			08/26/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/828,570	<b>Applicant(s)</b> TYAN ET AL.	
	<b>Examiner</b> QUAN-ZHEN WANG	<b>Art Unit</b> 2613	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 May 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-15,17-23,25-31 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-15,17-23,25-31 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7, 9-15, 17-23, 25-31, and 33-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation of "computing a hybrid path route for the selected LSP between a first node and a second node of the plurality of nodes, the hybrid path route comprising at least one IP link and at least one lightpath of a wavelength division multiplex (WDM) topology coupled to the IP network". However, it is unclear what is considered as the "IP link". Claims 9, 17, and 25 recite the similar limitation.

Claim 34 recites the limitation of "wherein at least one IP link and the at least one lightpath of the WDM topology are operated by different service providers". However, the limitation does not further limit the scope of the depending claim.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4-7, 9-10, 12-15, 17-18, 20-23, 25-26, 28-31, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Patent Application Publication US 2003/0117678 A1) in view of Iovanna et al. (U.S. Patent Application Publication US 2006/0209785 A1).

Regarding claims 1, 9, 17, and 25, as they are understood in view of the above 112 problem, Chang discloses a system (figs. 1-5, 28-29, 31-34, and 36-40) for managing network traffic, comprising: an internet protocol network (fig. 1, network 110; fig. 36A: network formed by the IP routers) for communicating traffic, the IP network comprising a plurality of nodes coupled by IP links (fig. 1, node 111 and 112; fig. 36A, the links between the IP nodes (routers) is considered IP links); a wavelength division multiplex (WDM) topology coupled to the IP network (fig. 1, network 120), the WDM topology comprising a plurality of lightpaths (fig. 1, the paths connecting node 1-node5) operable to communicate optical traffic; and a controller (figs. 2-3, NC&M) operable to: provision the IP network for communicating traffic; monitor the IP network for a congestion event; upon detecting a congestion event, select a label switched path (LSP) of the IP network for reroute (paragraph 0113); compute a hybrid path route for the selected LSP between a first node and a second node of the plurality of nodes, the hybrid path route comprising at least one IP link (fig. 36A, the IP link between the IP nodes (routers) and at least one lightpath of the WDM topology (fig. 36A, the WDM links with in 3625); determine whether performance of the WDM route reduces costs (for example, paragraph 0105); and if the WDM route reduces costs: activate a new IP link on each of the at least one lightpaths of the plurality of lightpaths of the WDM topology;

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and reroute the selected LSP according to the hybrid path route (for example, paragraphs 0101-0109). Chang differs from the claimed invention in that Chang does not specifically disclose that the reduction of the cost is based on the hybrid path route. However, it is well known in the art that minimize cost of the hybrid link is associated with the minimizing the cost of the optical paths which physically connects IP nodes as well as the logical IP link. For example, lovanna discloses that nodes in a network are linked with a plurality of logical links each corresponding to at least one physical link, and the method for routing the data comprising calculation of path of reduced cost ("efficient network performance", paragraph 0014) (figs. 2-5, paragraphs 0014-0018, 0030-0037). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the dynamic routing method of lovanna in the system of Chang. The motivation for doing so would have been to calculate an optimal path between the IP nodes (lovanna: paragraph 0014).

Regarding claims 2, 10, 18, and 26, Chang further discloses that the controller is further operable to decommission an idle IP link after rerouting the selected LSP (for example, paragraph 0113).

Regarding claims 4, 12, 20, and 28, Chang further discloses that the controller operable to account for a cost associated with each IP link and each lightpath of the hybrid path route (for example, paragraph 0105).

Regarding claims 5, 13, 21, and 29, Chang further discloses that a controller operable to activate a new IP link on each of the at least one lightpaths of the plurality of lightpaths of the WDM topology comprises a controller operable to: allocate an unused

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router port on each end of each of the at least one lightpaths; and activate the allocated router ports with respective established lightpaths (for example, paragraphs 0105 and 0113).

Regarding claims 6, 14, 22, and 30, Chang further discloses that the IP network comprises an IP router (fig. 1, IP router 111).

Regarding claims 7, 15, 23, and 31, Chang further discloses that the WDM topology couples optical cross-connection of the WDM topology (fig. 1, optical network 120).

Regarding claim 35, Chang further discloses computing a hybrid path route comprising computing a hybrid path route comprising at least one non-light link and at least one lightpath of a WDM topology coupled to the IP network (figs. 1 and 28).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Patent Application Publication US 2003/0117678 A1) in view of Iovanna et al. (U.S. Patent Application Publication US 2006/0209785 A1).

Regarding claim 34, as it is understood in view of the above 112 problem, Chang and Iovanna do not specifically disclose that at least one IP link and at least one

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lightpath of the WDM topology are operated by different service providers. However, Chang specifically discloses that IP links are electrical layer coupled to the optical layer (fig. 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to operate the IP layer and optical layer with different providers in order for the service providers to focus on their own expertise to provide better services.

7. Claims 3, 11, 19, 27, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Patent Application Publication US 2003/0117678 A1) view of lovanna et al. (U.S. Patent Application Publication US 2006/0209785 A1), and further in view of Pieda et al. (U.S. Patent US 6,882,627 B2).

Regarding claims 3, 11, 19, 27, and 33, Chang and lovanna have been discussed above in regard with claims 1-2, 4-7, 9-10, 12-15, 17-18, 20-23, 25-26, and 28-31. The modified network of Chang and lovanna inherently comprises a subset of available lightpaths. The modified network of Chang and lovanna differs from the claimed invention in that Chang and lovanna do not specifically disclose using a transformed topology to calculate the hybrid path. However, using a transformed topology to calculate a path in a communication network is well known in the art. For example, Pieda discloses to calculate a path using a transformed topology (fig. 3C). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the method of Pieda in the modified system of Chang and lovanna to calculate a path using a transformed topology. One of

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ordinary skill in the art would have been motivated to do so in order to identify the best non-primary path through the network.

### ***Response to Arguments***

8. Applicant's arguments on 5/21/2009 have been fully considered but they are moot in view of the new grounds of rejections.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Liu (U.S. Patent Application Publication US 2003/0179716 A1) discloses a virtual IP network over reconfigurable WDM network. Kano et al. (U.S. Patent Application Publication US 2003/0043745 A1) disclose a path modifying, label switching node and administrative node in label transfer network.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUAN-ZHEN WANG whose telephone number is (571)272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

8/18/2009

/Quan-Zhen Wang/

Primary Examiner, Art Unit 2613